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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Maurizio Galimberti

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EXAMINER

HAUTH, GALEN H

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,530	Applicant(s) GALIMBERTI ET AL.	
	Examiner GALEN HAUTH	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47 and 50-106 is/are pending in the application.
- 4a) Of the above claim(s) 85-106 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47 and 50-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Acknowledgment is made to applicant's amendment of claims 47, 50, 51, 65, 76, 78, 80, and 81. No new matter has been added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 47 and 50-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eswaran et al. (PN 5711904) in view of Shiromatsu et al. (PN 4814130).

- a. With regards to claim 47, Eswaran teaches a method for continuously producing an elastomeric composition (abstract) in which, as seen in Figure 2, an elastomer (41) and a filler (43) are fed into a first extruder (48) where the composition is mixed and dispersed. Eswaran teaches discharging and cooling the composition (52) and passing the resulting cooled composition through a

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second mixing apparatus (62), but does not teach that the second mixer comprises a static mixer.

b. Shiromatsu teaches a method for mixing and extruding an elastomeric composition (abstract, Fig. 1, col 3 ln 32-45, olefin elastomers listed) in which the elastomer and filler/masterbatch are added to an extruder, mixed, and discharged after passing through a static mixer (Fig. 1, col 6 ln 5-9, col 8 ln 37-41). Shiromatsu teaches that use of a static mixer prior to discharge of a material from an extruder divides a continuous flow into several portions and continuously mixes the divided portions by changing combinations of the dividing planes and therefore uniformly decreasing the temperature during cooling prior to discharge (col 2 ln 43-64). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the extruder and static mixer apparatus of Shiromatsu for the second mixing device of Eswaran, because both relate to the mixing and extruding of elastomeric compositions presenting a reasonable expectation of success, and the static mixer allows for uniform decreases in temperature prior to discharge.

c. With regards to claims 50-51, Eswaran teaches interstage cooling (Fig. 2), but does not teach a temperature to which the material is cooled. Eswaran teaches using extruder barrels with temperatures ranging from 50-500 degrees Fahrenheit (col 6 ln 45-48). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a material temperature in the process between 50-500 degrees Fahrenheit (10-560 degrees

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Celsius)including the interstage cooler as this is a temperature range taught by Eswaran for handling the material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to cool the material to 20-90 degrees Celsius through optimization of the material handling temperature range taught by Eswaran, because Eswaran is silent as to a cooling temperature for interstage cooling prompting one of ordinary skill to use the temperature range taught by Eswaran for material handling in the remainder of the process.

d. With regards to claims 52-54, 56, and 66-67, Eswaran teaches adding coupling agent to the extruder (Col 11 Example 1).

e. With regards to claim 55, Eswaran teaches including silica (Example 1, a non temperature sensitive ingredient).

f. With regards to claims 58 and 69, Eswaran teaches using silica with a particle size of nanometers (col 7 ln 45-50, powder)

g. With regards to claims 57, 59-65, 68, 70-76, and 78-81 Eswaran teaches passing the elastomeric material through multiple cycles of the first extruder in which ingredients may be added on each pass and the resulting elastomeric composition is ground into 3/8 inch (9.5 mm) particles and passed through again (col 8 ln 50-60, col 9 ln 1-10, Col 11 ln 25-30, each pass creates a master batch that is ground into a subdivided product before introduction into the extruder and contains minor ingredients and will be stirred by its passage through the static mixer of Shiromatsu).

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- h. With regards to claim 77, Eswaran teaches discharging the composition as crumbs (col 6 ln 50).
- i. With regards to claim 82, Eswaran in view of Shiromatsu, as applied to claim 47 above, teaches discharging through a static mixer.
- j. With regards to claims 83 and 84, Eswaran teaches processing in a continuous or batchwise manner (col 8 ln 65-67).

Response to Arguments

- 5. Applicant's arguments with respect to claims 47 and 50-84 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

- 6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791